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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* MICHAEL HERSCOVICI, REINER KRAFT, RONNY LEMPEL,  
and JASON YEONG ZIEN

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Appeal 2009-003731  
Application 10/605,208  
Technology Center 2100

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Decided: April 1, 2010

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Before JOHN A. JEFFERY, JAY P. LUCAS, and  
ST. JOHN COURTENAY III, *Administrative Patent Judges*.

COURTENAY, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134(a) (2002) from the Examiner's rejection of claims 1-19. We have jurisdiction under 35 U.S.C. § 6(b) (2008).

We AFFIRM.

## STATEMENT OF THE CASE

### INVENTION

The invention on appeal is directed generally to the field of information retrieval. More particularly, the invention on appeal is related to automatic query routing and rank configuration (for search queries) in an information retrieval system. (Spec. 1, Para. [0001]).

### ILLUSTRATIVE CLAIM

1. A method for identifying documents most relevant to a query from a collection of documents that is organized based on a set of indices, said method comprising the steps of:
  - a) determining a query class for a received query based on statistical information regarding query terms of said received query and lexical affinities associated with permutations of said query terms, said query class associated with a routing function and a ranking function, said routing function capable of determining subsets of the collection that most likely include the most relevant documents, and said ranking function capable of sorting the documents in terms of relevancy;
  - b) identifying a set of indices most relevant to said query;
  - c) identifying a set of documents related to said query based on said determined indices, said identification performed via passing said ranking function associated with said determined query class along with said query to each search engine that manages a determined index from a collection of relevant indices;
  - d) collecting results ranked based upon said ranking function and merging and sorting said collected results by relevancy; and

e) returning a subset of the highest ranked documents as the documents most relevant to the query.

#### PRIOR ART

The Examiner relies upon the following reference as evidence:

Christianson                    US 6,085,186                    Jul. 4, 2000

#### THE REJECTION

The Examiner rejected claims 1-19 under 35 U.S.C. § 102(b) as anticipated by Christianson.

#### GROUPING OF CLAIMS

Based on Appellants' arguments in the Briefs, we decide the appeal on the basis of representative claim 1.<sup>1</sup> *See* 37 C.F.R. § 41.37(c)(1)(vii).

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<sup>1</sup> Appellants state that the arguments set forth "with respect to independent claims 1 and 8 substantially apply to independent claims 12 and 17." (App. Br. 13, ¶ 3, first sentence). Appellants additionally state that "[f]urthermore, the above-mentioned arguments with respect to independent claims 1, 8, 12, and 17 substantially apply to dependent claims 2-7, 9-11, 13- 16 and 18-19 as they inherit all the features of the claim from which they depend." (App. Br. 14). While Appellants reproduce certain claims in the Brief (pp. 8-14) with selected limitations emphasized in bold and underlined, we note that a statement which merely points out what a claim recites will not be considered an argument for separate patentability of the claim. *See* 37 C.F.R. § 41.37(c)(1)(vii). Moreover, arguments which Appellants could have made but chose not to make in the Briefs have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii).

## ISSUE

Appellants contend that the portions of Christianson relied on by the Examiner do not disclose the “query class” of Appellants’ claims 1 and 8. (App. Br. 9, ¶ 3). Appellants acknowledge that “Christianson uses similar terminologies.” (App. Br. 9, ¶3, first sentence). However, Appellants maintain that Christianson’s “conceptual classes” are not based on *statistical information regarding query terms of said received query and lexical affinities associated with permutations of said query terms.* (App. Br. 9-10).

The Examiner disagrees. The Examiner finds that “Christianson teaches at Col. 14 lines 50-60 the step of assigning [the] relevant concept (or ‘conceptual class’) to query words.” (Ans. 9). The Examiner states that “Christianson determines [the] ‘conceptual class’ associated with a query by examining each word of the query. Particularly, Christianson at Col. 9 lines 5-10 . . . [discloses] the step of determining the query class (i.e., information source's relevance) for a query by counting the number of query words (i.e. ‘statistical information regarding query terms’).” (Ans. 10).

**Issue:** Did the Examiner err in finding that Christianson discloses or describes “a query class for a received query based on statistical information regarding query terms of said received query and lexical affinities associated with permutations of said query terms?” (Representative independent claim 1).

## PRINCIPLES OF LAW

### *Anticipation under § 102*

In rejecting claims under 35 U.S.C. § 102, “[a] single prior art reference that discloses, either expressly or inherently, each limitation of a claim invalidates that claim by anticipation.” *Perricone v. Medicis Pharm. Corp.*, 432 F.3d 1368, 1375 (Fed. Cir. 2005) (citing *Minn. Mining & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 1565 (Fed. Cir. 1992)).

Anticipation of a patent claim requires a finding that the claim at issue ‘reads on’ a prior art reference. In other words, if granting patent protection on the disputed claim would allow the patentee to exclude the public from practicing the prior art, then that claim is anticipated, regardless of whether it also covers subject matter not in the prior art.

*Atlas Powder Co. v. IRECO, Inc.*, 190 F.3d 1342, 1346 (Fed. Cir. 1999) (citations omitted).

## FINDINGS OF FACT

In our analysis *infra*, we rely on the following findings of fact (FF):

### *Appellants’ Specification*

1. Appellants use the term “permutations” interchangeably with “combinations.” (Spec. para. [0029], “combinations (permutations”).
2. Appellants describe “lexical affinities” as “terms that appear close to each other within a certain range.” (Spec. para. [0012], ll. 6-7).

3. Appellants describe “query classes” in terms of query categories:

It should be noted that the preferred embodiment discloses a broad case wherein only two query categories are described: one for navigational queries and one for information queries. However, in addition to *classifying a query to a query category*, a different methodology can be used to calculate a rank configuration.

(Spec. para. [0023], emphasis added).

*The Christianson Reference*

4. Christianson discloses “[t]he preferred query router is based on the principle of assigning relevant concepts to information sources and query words . . . . Further, each word that can appear in possible queries is examined to determine which of the chosen concepts are relevant to the word. Then, upon receiving the words or keywords of a query, the concepts associated with these words are determined, and then the information sources relevant to these concepts are found.” (Col. 14, ll. 49-51 and 55-61).
5. Christianson discloses “[i]n an exemplary embodiment, for queries requesting the presence either of all query words or of any query words, the estimate is determined by scanning the page and counting the number of query words actually present, and then scaling the count so that the presence of all words results in the common maximum relevance value. For queries requesting the presence of a phrase, the estimate is determined, for example, by subtracting from the common maximum a normalized sum of the square of the distance in the page of each word of the phrase from its successor word in the

phrase. Thereby, if the phrase appears contiguously in the page the relevance is high, whereas if the words of the phrase are widely separated on the page, the relevance is low.” (Col. 9, ll. 5-17).

6. Christianson describes “conceptual classes” in terms of groupings of “similar sorts of information.” (Col. 4, ll. 30-32).

## ANALYSIS

### ISSUE 1

We decide the question of whether the Examiner erred in finding that Christianson discloses or describes “a query class for a received query based on statistical information regarding query terms of said received query and lexical affinities associated with permutations of said query terms.” (Representative independent claim 1).

We begin our analysis by focusing on the scope of the claim term “query class.” During prosecution, “the PTO gives claims their ‘broadest reasonable interpretation.’” *In re Bigio*, 381 F.3d 1320, 1324 (Fed. Cir. 2004) (quoting *In re Hyatt*, 211 F.3d 1367, 1372 (Fed. Cir. 2000)).

We observe that Appellants have not pointed to any particular supporting definition in the Specification. However, when we look to Appellants’ Specification for *context*, we note that Appellants broadly describe “query classes” in terms of query categories:

It should be noted that the preferred embodiment discloses a broad case wherein only two query categories are described: one for navigational queries and one for information queries. However, in addition to classifying a query to a query category, a different methodology can be used to calculate a rank configuration.

(FF 3, underline added).

Thus, consistent with Appellants' Specification, we broadly but reasonably construe the recited "query class" as reading on *any* category or class of queries. We interpret a "class" as broadly but reasonably reading on groups of similar or related information.

Given this broad but reasonable construction, we find no support for Appellants' contention that Christianson's "conceptual classes" are not "query classes," as claimed. (*See e.g.*, App. Br. 9). Moreover, we are of the view that Appellants have at least provided tacit support for the Examiner's position by admitting in the record that "Christianson uses similar technologies." (App. Br. 9, ¶ 3). Thus, the question before us is whether Christianson's "similar technologies" (as described by Appellants) are sufficiently similar to fall within the broad scope of Appellants' representative claim 1. Based on our review of the evidence, we answer this question in the affirmative.

Since we construe a "query class" as reading on *any* category or class of queries (where a "class" reads on groups of similar or related information), we agree with the Examiner that Appellants' "query class" broadly but reasonably reads on Christianson's "conceptual classes" that are described in terms of groupings of "similar sorts of information." (FF 6; *see also* FF 4: "relevant concepts" associated with "information sources"). However, Appellants aver that Christianson's "conceptual classes" are not based on statistical information regarding query terms of said received query and lexical affinities associated with permutations of said query terms (App. Br. 9-10). We broadly but reasonably construe the claim terms "based on" and "associated with" to read on *any nexus or relationship*.

Regarding the claimed “lexical affinities,” we note that Appellants describe “lexical affinities” in their Specification as “terms that appear close to each other within a certain range.” (FF 2).

Turning to the reference, we find Christianson discloses “[f]or queries requesting the presence of a phrase, the estimate is determined, for example, by subtracting from the common maximum a normalized sum of the square of the distance in the page of each word of the phrase from its successor word in the phrase.” (FF 5).

Thus, we find Christianson discloses “query classes” (conceptual classes) based on statistical information (e.g., a normalized sum) *regarding query terms of said received query and lexical affinities* (e.g., distance in the page of each word of the phrase from its successor word in). (*Id.*).

We also find that Christianson discloses the claimed *statistical information and lexical affinities are associated with permutations of said query terms*, given that Appellants’ Specification uses the term “permutations” interchangeably with the term “combinations.” (FF 1). Thus, we find any combination of query terms (as disclosed by Christianson) is a “permutation” of query terms within the meaning of Appellants’ representative claim 1.

Given our aforementioned claim construction, we find the evidence before us supports the Examiner’s position. Claims 2-19 fall with representative claim 1. *See* 37 C.F.R. § 41.37(c)(1)(vii).

Appeal 2009-003731  
Application 10/605,208

## CONCLUSION

Based on the findings of fact and analysis above:

The Examiner did not err in finding that Christianson discloses or describes “a query class for a received query based on statistical information regarding query terms of said received query and lexical affinities associated with permutations of said query terms.” (Representative independent claim 1).

## ORDER

We affirm the Examiner’s rejection of claims 1-19 under 35 U.S.C. § 102(b).

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

pgc

IP AUTHORITY, LLC  
RAMRAJ SOUNDARARAJAN  
4821A Eisenhower Ave.  
Alexandria, VA 22304